Title

"Generating electricity using Earth's Magnetic field"

Technical Field

The invention relates to methods and systems for generating electricity by harnessing Earth's natural electromagnetic field, utilizing principles of electromagnetic induction.

Background of the Invention

Electricity generation is crucial for modern society, traditionally relying on fossil fuels and renewable sources such as solar and wind power. However, these sources have limitations, including intermittency and environmental impact. Earth possesses a global electromagnetic field, moving from the North Pole to the South Pole, providing a consistent and renewable energy source.

Summary of the Invention

The invention proposes a method and system to generate electricity by rotating an armature aligned parallel to Earth's equator within its electromagnetic field. As the armature rotates in the direction of the magnetic field lines, electromagnetic induction occurs in a coil of wire mounted on the armature. This induces an electric current that can be captured, stored, and utilized for various applications.

Detailed Description

1. **Armature Configuration**:
   o The armature is oriented with its central axis parallel to Earth's equator.
   o Dimensions and materials are optimized for durability and efficiency in electromagnetic field conditions.
2. **Electromagnetic Induction**:
   o A coil of wire is mounted on the armature.
   o As the armature rotates within Earth's magnetic field, flux changes induce an electromotive force (emf) in the coil, generating alternating current (AC).
3. **Energy Conversion and Storage**:
   o The AC output is rectified to direct current (DC) using standard rectifier circuits.
   o DC electricity is stored in batteries or capacitors for later use or can be directly fed into electrical grids.
4. **Operational Efficiency**:
   o The system's efficiency is optimized by aligning the armature rotation with the direction of Earth's magnetic field lines.
   o Measures are taken to minimize losses and maximize energy conversion rates.
5. **Advantages**:
   o Renewable Energy Source: Harnesses Earth's natural electromagnetic field, reducing dependency on fossil fuels.
   o Sustainability: Low environmental impact compared to traditional energy sources.
   o Reliability: Provides a consistent source of electricity regardless of weather conditions.

Claims

1. A method for generating electricity using Earth's electromagnetic field, comprising:
   o Rotating an armature with its central axis parallel to Earth's equator.
   o Inducing an electric current in a coil mounted on the armature as it rotates within Earth's magnetic field.
2. A system for generating electricity as claimed in claim 1, further comprising:

- o   Means for rectifying the induced alternating current (AC) to direct current (DC).
- o   Storage devices for storing the generated DC electricity.
3. The method of claim 1 or claim 2, wherein the armature rotation is synchronized with the direction of Earth's magnetic field lines for optimal electricity generation.

Abstract

A method and system for generating electricity by rotating an armature aligned parallel to Earth's equator within its electromagnetic field are disclosed. The method involves inducing an electric current in a coil mounted on the armature as it rotates, thereby converting Earth's magnetic energy into usable electrical power.

Conclusion

This patent application outlines an innovative approach to harnessing Earth's electromagnetic field for sustainable electricity generation. By rotating an armature aligned with Earth's equatorial axis, the invention demonstrates a practical method to convert natural magnetic energy into electrical power, offering significant advantages in renewable energy technology.

By structuring your patent application in this manner, you effectively detail the novelty, functionality, and technical specifications of your invention while seeking legal protection for your innovative approach to generating electricity using Earth's electromagnetic field.

Generating Electricity using Earth's Magnetic Field

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Earth

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center axis of armature.

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Battery

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